

CLAIMS

What is claimed is:

- 1 1. A mobile communication device comprising:
 - 2 a telephony unit to process telephony signals and to receive a signal
 - 3 indicating an incoming call over a wireless link, the signal including Caller-ID
 - 4 information; and
 - 5 a browser to enable a user to access and navigate hypermedia
 - 6 information, and further to receive the Caller-ID information from the telephony
 - 7 unit in response to the incoming call and, in response to receiving the Caller-ID
 - 8 information, to execute a predetermined action based on the Caller-ID
 - 9 information.
- 1 2. A mobile communication device as recited in claim 1, further comprising an
- 2 output device to output a ring tone indicating the incoming call, wherein said
- 3 action comprises the browser looking up ring tone data previously associated
- 4 with the Caller-ID information, and wherein the output device is caused to
- 5 output a ring tone based on the ring tone data.
- 1 3. A mobile communication device as recited in claim 2, wherein the incoming
- 2 call originates from a caller, wherein the caller is a member of a predefined group
- 3 of callers, and wherein the ring tone data represents a ring tone previously
- 4 associated with the group.

1 4. A mobile communication device as recited in claim 2, wherein:

2 the caller is a member of a predefined group of callers;

3 the ring tone emulates a sound instrument previously associated with the

4 group of callers; and

5 the ring tone has an audible pattern previously associated specifically

6 with the caller.

1 5. A mobile communication device as recited in claim 4, wherein the sound

2 instrument is a musical instrument and the audible pattern is a melody.

1 6. A mobile communication device as recited in claim 1, further comprising a

2 memory to store a local data structure, wherein said action comprises the

3 browser looking up data of a predetermined type in the local data structure.

1 7. A mobile communication device as recited in claim 6, wherein the data

2 comprises ring tone data.

1 8. A mobile communication device as recited in claim 6, wherein the data is

2 stored in a vCard.

1 9. A mobile communication device as recited in claim 6, wherein the data

2 comprises ring tone data stored in a vCard.

1 10. A mobile communication device as recited in claim 1, further comprising a

2 memory to store data of a predetermined type, wherein the browser attempts to
3 locate the data in the memory in response to receiving the Caller-ID information
4 and, if the data is not found in the memory, the browser automatically attempts
5 to obtain the data from a remote server via the wireless link during a subsequent
6 data connection by the browser over the wireless link.

1 11. A mobile communication device as recited in claim 10, wherein the data
2 comprises ring tone data associated with the Caller-ID information.

1 12. A mobile communication device as recited in claim 10, wherein the data is
2 stored in a vCard.

1 13. A mobile communication device as recited in claim 12, wherein the data
2 comprises ring tone data stored in a vCard and associated with the Caller-ID
3 information.

1 14. A mobile communication device as recited in claim 1, further comprising a
2 memory storing a local data structure, wherein said action comprises the
3 browser obtaining data of a predetermined type from a remote processing
4 system via the wireless link and automatically updating the local data structure
5 using the data obtained from the remote processing system.

1 15. A mobile communication device as recited in claim 14, wherein the data
2 comprises ring tone data.

1 16. A mobile communication device as recited in claim 14, wherein the data is
2 stored in a vCard.

1 17. A mobile communication device as recited in claim 14, wherein the data
2 comprises ring tone data stored in a vCard.

1 18. A mobile communication device as recited in claim 1, wherein said action
2 comprises the browser signaling the telephony unit to initiate an outgoing call in
3 response to the incoming call.

1 19. A mobile communication device as recited in claim 18, wherein the incoming
2 call originates from a source, the source having a telephone number, and
3 wherein the outgoing call is placed to a telephone number other than the
4 telephone number of the source.

1 20. A mobile telephone comprising:
2 a communications interface to communicate voice and data with a remote
3 site over a wireless network;
4 an output device to output a ring tone indicating an incoming telephone
5 call from a caller;
6 a memory storing a browser to enable a user of the mobile telephone to
7 access hypermedia information stored on a remote processing system via the
8 wireless network and to navigate the hypermedia information; and

9 a telephony unit to process telephony signals, to receive a signal
10 indicating the incoming telephone call, the signal including Caller-ID
11 information, and to provide the Caller-ID information to the browser;
12 wherein the browser uses the Caller-ID information to look up ring tone
13 data previously associated with the caller and to provide the ring tone data to the
14 telephony unit, such that the telephony unit causes the output device to output
15 the ring tone based on the ring tone data provided by the browser.

1 21. A mobile telephone as recited in claim 20, further comprising a local data
2 structure, wherein the browser obtains the ring tone data from the local data
3 structure.

1 22. A mobile telephone as recited in claim 20, wherein the ring tone data is
2 stored in a remote processing system, such that the browser obtains the ring tone
3 data from the remote processing system via the wireless network.

1 23. A mobile telephone as recited in claim 22, further comprising a local data
2 structure, wherein the browser automatically updates the local data structure
3 using the ring tone data obtained from the remote processing system.

1 24. A mobile telephone as recited in claim 20, further comprising a local data
2 structure to store ring tone data, wherein the browser attempts to locate the ring
3 tone data in the local data structure in response to receiving the Caller-ID

4 information and, if the ring tone data is not found in the local data structure, the
5 browser automatically attempts to obtain the ring tone data from a remote server
6 via the wireless network during a subsequent data connection by the browser
7 over the wireless network.

1 25. A mobile telephone as recited in claim 24, wherein the browser automatically
2 updates the local data structure using the ring tone data obtained from the
3 remote server.

1 26. A mobile telephone as recited in claim 20, wherein the ring tone data is
2 stored in a vCard.

1 27. A mobile telephone as recited in claim 26, wherein the ring tone data is
2 stored in a vCard previously defined by the caller.

1 28. A mobile telephone as recited in claim 20, wherein the caller is a member of a
2 predefined group of callers, and wherein the ring tone data represents a ring
3 tone previously associated with the group.

1 29. A mobile telephone as recited in claim 20, wherein:
2 the caller is a member of a predefined group of callers;
3 the ring tone emulates a sound instrument previously associated with the
4 group of callers; and
5 the ring tone has an audible pattern previously associated specifically

6 with the caller.

1 30. A mobile telephone as recited in claim 29, wherein the sound instrument is a
2 musical instrument and the audible pattern is a melody.

1 ~~31. A machine-readable storage medium storing a browser for use in a mobile~~
2 ~~telephone configured to operate on a wireless network, the browser to enable a~~
3 ~~user of the mobile telephone to access and navigate hypermedia information~~
4 ~~from the mobile telephone, wherein the browser, when executed, performs a~~
5 ~~process comprising:~~

6 the browser receiving Caller-ID information associated within an
7 incoming telephone call to the mobile telephone; and

8 the browser automatically executing a predetermined action based on the
9 Caller-ID information, in response to receiving the Caller-ID information.

1 32. A machine-readable storage medium as recited in claim 31, wherein the
2 predetermined action comprises looking up ring tone data previously associated
3 with the Caller-ID information, such that the mobile telephone outputs a ring
4 tone based on the ring tone data.

1 33. A machine-readable storage medium as recited in claim 32, wherein the
2 incoming telephone call originates from a caller, wherein the caller is a member
3 of a predefined group of callers, and wherein the ring tone data represents a ring

4 tone previously associated with the group.

1 34. A machine-readable storage medium as recited in claim 32, wherein:

2 the caller is a member of a predefined group of callers;

3 the ring tone emulates a sound instrument previously associated with the

4 group of callers; and

5 the ring tone has an audible pattern previously associated specifically

6 with the caller.

1 35. A machine-readable storage medium as recited in claim 34, wherein the

2 sound instrument is a musical instrument and the audible pattern is a melody.

1 36. A machine-readable storage medium as recited in claim 31, wherein the

2 predetermined action comprises looking up data of a predetermined type in a

3 data structure within the mobile telephone.

1 37. A machine-readable storage medium as recited in claim 36, wherein the data

2 comprises ring tone data.

1 38. A machine-readable storage medium as recited in claim 36, wherein the data

2 is stored in a vCard.

1 39. A machine-readable storage medium as recited in claim 36, wherein the data

2 comprises ring tone data stored in a vCard.

1 40. A machine-readable storage medium as recited in claim 31, wherein the
2 predetermined action comprises automatically attempting to locate the data in a
3 local memory in response to receiving the Caller-ID information and, if the data
4 is not found in the memory, automatically attempting to obtain the data from a
5 remote server via the wireless network during a subsequent data connection by
6 the browser over the wireless network.

1 41. A machine-readable storage medium as recited in claim 40, wherein the data
2 comprises ring tone data.

1 42. A machine-readable storage medium as recited in claim 40, wherein the data
2 is stored in a vCard.

1 43. A machine-readable storage medium as recited in claim 40, wherein the data
2 comprises ring tone data stored in a vCard.

1 44. A machine-readable storage medium as recited in claim 31, wherein the
2 predetermined action comprises obtaining data of a predetermined type from a
3 remote processing system via the wireless network and automatically updating
4 the local data structure using the data obtained from the remote processing
5 system.

1 45. A machine-readable storage medium as recited in claim 44, wherein the data
2 comprises ring tone data.

1 46. A machine-readable storage medium as recited in claim 44, wherein the data
2 is stored in a vCard.

1 47. A machine-readable storage medium as recited in claim 44, wherein the data
2 comprises ring tone data stored in a vCard.

1 48. A machine-readable storage medium as recited in claim 31, wherein the
2 predetermined action comprises signaling a telephony unit in the mobile
3 telephone to initiate an outgoing call in response to the incoming call.

1 49. A machine-readable storage medium as recited in claim 31, wherein the
2 incoming call originates from a source, the source having a telephone number,
3 and wherein the outgoing call is placed to a telephone number other than the
4 telephone number of the source.

1 50. A method of executing a browser in a mobile communication device
2 configured to communicate voice and data over a wireless network, the browser

3 to enable a user of the mobile communication device to access and navigate
4 hypermedia data, the method comprising, in the browser:

5 receiving Caller-ID information in response to the mobile communication
6 device receiving a signal indicating an incoming voice call over a wireless
7 network; and
8 automatically executing a predetermined action based on the Caller-ID

9 information.

1 51. A method as recited in claim 50, wherein automatically executing a
2 predetermined action comprises looking up ring tone data previously associated
3 with the Caller-ID information, the method further comprising outputting a ring
4 tone based on the ring tone data.

1 52. A method as recited in claim 51, wherein the incoming voice call originates
2 from a caller, wherein the caller is a member of a predefined group of callers, and
3 wherein the ring tone data represents a ring tone previously associated with the
4 group.

1 53. A method as recited in claim 51, wherein:
2 the caller is a member of a predefined group of callers;
3 the ring tone emulates a sound instrument previously associated with the
4 group of callers; and
5 the ring tone has an audible pattern previously associated specifically
6 with the caller.

1 54. A method as recited in claim 53, wherein the sound instrument is a musical
2 instrument and the audible pattern is a melody.

1 55. A method as recited in claim 50, wherein automatically executing a
2 predetermined action comprises looking up data of a predetermined type in a

3 data structure within the mobile communication device.

1 56. A method as recited in claim 55, wherein the data comprises ring tone data.

1 57. A method as recited in claim 55, wherein the data is stored in a vCard.

1 58. A method as recited in claim 55, wherein the data comprises ring tone data
2 stored in a vCard.

1 59. A method as recited in claim 50, wherein automatically executing a
2 predetermined action comprises automatically attempting to locate data of a
3 predetermined type in a local memory in response to receiving the Caller-ID
4 information and, if the data is not found in the memory, automatically
5 attempting to obtain the data from a remote server via the wireless network
6 during a subsequent data connection by the browser over the wireless network.

1 60. A method as recited in claim 59, wherein the data comprises ring tone data
2 associated with the Caller-ID information.

1 61. A method as recited in claim 59, wherein the data is stored in a vCard.

1 62. A method as recited in claim 59, wherein the data comprises ring tone data
2 stored in a vCard and associated with the Caller-ID information.

1 63. A method as recited in claim 50, wherein automatically executing a

2 predetermined action comprises obtaining data of a predetermined type from a
3 remote processing system via the wireless network and automatically updating
4 the local data structure using the data obtained from the remote processing
5 system.

1 64. A method as recited in claim 63, wherein the data comprises ring tone data
2 associated with the Caller-ID information.

1 65. A method as recited in claim 63, wherein the data is stored in a vCard.

1 66. A method as recited in claim 63, wherein the data comprises ring tone data
2 stored in a vCard and associated with the Caller-ID information.

1 67. A method as recited in claim 50, wherein automatically executing a
2 predetermined action comprises causing the mobile communication device to
3 initiate an outgoing voice call in response to the incoming voice call.

1 68. A method as recited in claim 67, wherein the incoming voice call originates
2 from a source, the source having a telephone number, and wherein the outgoing
3 voice call is placed to a telephone number other than the telephone number of
4 the source.

1 69. A method of operating a browser in a mobile telephone configured to
2 communicate voice and data over a wireless network, the browser to enable a

3 user of the mobile telephone to access and navigate hypermedia data, the
4 method comprising:

5 receiving Caller-ID information at the browser in response to the mobile
6 telephone receiving a signal indicating an incoming telephone call over the
7 wireless network;

8 in response to receiving the Caller-ID information, automatically
9 attempting to locate ring tone data associated with the Caller-ID information in a
10 contact database within the mobile telephone;

11 if the ring tone data is found in the contact database, then outputting the
12 ring tone data to a telephony unit of the mobile telephone, the outputted ring
13 tone data for use in generating a ring tone indicating the incoming telephone call;

14 if the ring tone data is not found in the contact database, then
15 waiting to establish a data connection with a remote server via the
16 wireless network, and when the data connection is established,
17 automatically requesting the ring tone data from the remote server
18 via the wireless network,

19 receiving the ring tone data via the wireless network, and
20 storing the ring tone data in the contact database in association
21 with the Caller-ID information.

1 70. A method as recited in claim 69, wherein the ring tone data is stored in a
2 vCard.